

**REMARKS**

In her latest Office Action, the Examiner objected to Claims 4, 5, 12, and 34-48 as being dependent upon a rejected base claim. Applicant has rewritten these claims into independent form to include all of the limitations of the base claim and any intervening claims.

The Examiner rejected Claims 1, 2, 6-11, 13, 14, 16-19, 23, 32, and 33 as being anticipated by U.S. 6,190,056 B1 to Kwon et al. (hereinafter Kwon).

Regarding Claim 1, Applicant has amended independent Claim 1 to point out a distinction over the Kwon prior art reference in that the cantilevered arms are cantilevered in the direction of fiber so that the engaging means of each arm engages the fiber. In Kwon, the arms are cantilevered in a direction parallel with the fiber rather than being cantilevered orthogonally to it. Dependent Claims 2, 3, 6-11, and 13-23 are patentable at least for their dependency on Claim 1

In addition, regarding Claim 2, Applicant disagrees with the Examiner's argument that the feature of claim 2, namely that "the first and second cantilever arms are of unequal length" is disclosed in figure 4A of Kwon. There appears to be an apparent slight difference in the lengths of the protrusions 413 in the perspective drawing of figure 4A of Kwon. However, this is clearly due to the perspective view of the arms. Note that in the side elevation view of figure 4B, the measurement of the protrusions show them to clearly be of equal length. Thus, Kwon does not provide any teaching or suggestion of any benefit or advantage in varying the length of the protrusions so that they are of unequal length, as is required in Claim 2.

Regarding claim 10, Applicant disagrees that Kwon teaches a channel through each of the support members. As defined by Kwon and cited by the Examiner, the support member is item 412 of Figures 4A and 4B. Thus, the space between the support member 412 and the protrusion 413

defines the boundaries of the support member, rather than a channel running through the support member. Alternatively, if the Examiner is referring to the space between the support members 412, in which the fiber is sitting, this does not meet the criteria set out by the language of Claim 10, where *each* support member 412 has a channel running through it. Thus, Applicant disagrees that Kwon teaches a channel through each support member as required by Claim 10.

Regarding Claim 11, Applicant disagrees that Kwon teaches the channel runs substantially orthogonal to an axis between the fiber engagement means because Applicant disagrees that Kwon teaches a channel through each support member.

Regarding Claims 13 and 14, Applicant disagrees that Kwon teaches a fiber engagement means comprising a finger extending laterally from each one of the first and second cantilever arms. If the Examiner considers the protrusions 413 as the cantilevered arms, Kwon fails to teach fingers extending laterally from each protrusion. Thus, Applicant disagrees that Kwon teaches a finger extending laterally from each of the cantilevered arms as is required in Claims 13 and 14.

Regarding Claim 32, Applicant has amended independent Claim 32 to point out a distinction over the Kwon prior art reference in that the fixing brackets are cantilevered in the direction of fiber and adjusting the fibre alignment by adjusting the cantilevered fixing brackets. In Kwon, the arms are cantilevered in a direction parallel with the fiber rather than being cantilevered orthogonally to it. Dependent Claim 33 is patentable at least for its dependency on Claim 32.

The Examiner rejected Claims 3, 5, 15, and 20-22 as being obvious over Kwon.

Regarding Claim 3, Applicant disagrees with Examiner that the Applicant did not disclose the criticality of the value claimed. Applicant states at page 9, line 26 to page 10, line 5:

"The relative movement of both the longer 3 and shorter 4 cantilever arms under the

action of the distortional force is dependent on the ratio of lengths and the rigidity of each cantilever arm. The preferred length ratio is desired to be as large as is practicable, with the preferred five times minimum ratio originating from expected thermo-mechanical effects in the assembly which are equivalent to approximately 1 micron movements, producing  $\pm 0.2$  micron displacements in the optical fibre position. This corresponds to the maximum fibre displacement allowable without significant power loss occurring in the optical coupling, between the fibre and optical source.

Thus, Applicant sets a minimum ratio of the arms. Applicant then defines that minimum as being 5:1, which provide movements of  $\pm 0.2$  microns in the fiber and has the additional benefit of minimizing power loss during the coupling.

Applicant respectfully submits that Claims 3 and 5 do not teach the limitation that the cantilever arms are plastically deformable.

With regard to plastic deformation of the cantilever arms, Applicant assumes the Examiner intended to discuss Claim 15 instead of Claims 3 and 5 and responds on that basis. Regarding Claim 15, Applicant respectfully submits that *In re Leshin*, 125 USPQ 416, is inapposite because it discusses the obviousness of material selection from a suite of well known materials, whereas the current claims are directed not to the type of the material selected, but the required properties of the material. Applicant discloses on page 12, line 19 to page 13, line 2 that deformation of the cantilever arms is an important factor in determining the placement of the fibre. Applicant goes on to state on page 13, lines 12-19 that the fibre may be more exactly placed by correcting for such distortions. Thus, Applicant respectfully disagrees that the requirement of the plastic deformation is simply a material selection problem since it provides a more accurate placement of the fiber.

From the above, it can be seen that Applicant's apparatus for aligning and fixing an optical fiber relative to an optical source is not suggested by Kwon. Applicant, therefore, requests that the

Examiner now allow the claims as above amended.

Concurrent with this filing, Applicant is paying the requisite fee for a 2 month extension of time to respond to the Examiner's Action. The Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 503982 of Momkus McCluskey, LLC.

Respectfully submitted,

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